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Title: Teachers' attitudes toward trauma-informed practice: associations with attachment and adverse childhood experiences (ACEs)

Short title: Teachers' attitudes toward trauma-informed practice

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Abstract:

Background

Adverse childhood experiences have been associated with a range of poorer health and educational outcomes. In response, many schools have adopted trauma-informed care (TIC) approaches. Staff attitudes are postulated to play a central role in behaviour change, potentially facilitating or blocking system change towards TIC. Despite this, little is known about individual characteristics in school staff that associate with attitudes related to TIC.

Aims

The aim of this study was to investigate relationships between school staff demographic information, school experience, attachment patterns and ACEs.

Sample

Participants were 128 UK-based educational staff, age 19-70 years ($M = 37.76$, $SD = 11.34$). Females comprised 93% of the sample; 44% of participants indicated that they had received trauma-awareness training. Length of employment in education ranged from 1-43 years ($M=11.57$, $SD= 8.83$).

Methods

Participants completed an online survey comprising standardised measures of demographics, adult attachment, Adverse Childhood Experiences and Attitudes Related to Trauma Informed Care (ARTIC). The ARTIC yields five sub-scales of attitudes.

Results

Demographic variables were unrelated to attitudes to TIC. Zero order correlations revealed that ACEs and attachment dimensions were associated with attitudes. However, multiple linear regression analyses indicated that when exposure to trauma-informed training was accounted for, only attachment avoidance explained a significant proportion of variance in attitudes towards TIC.

Conclusions

Person experience of childhood adversity may influence education staff attitudes in the absence of T-I training. Attachment avoidance may represent a barrier to favourable attitudes to TIC, indicating that relational style should be considered in training.

Keywords:

ACEs; teachers; attitudes; trauma informed; attachment; education

Data availability statement:

The data that supports the findings of this study are openly available in the Open Science framework at:

<https://mfr.osf.io/render?url=https://osf.io/nsg4v/?direct%26mode=render%26action=download%26mode=renderref>

Abstract

Background

Adverse childhood experiences (ACEs) have been associated with a range of poorer health and educational outcomes. In response, many schools have adopted trauma-informed practice (TIP). Staff attitudes are postulated to play a central role in behaviour change, potentially facilitating or hindering system change towards TIP. However, little is known about how individual or contextual factors in school staff are associated with attitudes towards TIP.

Aims

The aim of this study was to investigate relationships between school staff demographic information, training experience, attachment patterns and ACEs, in relation to attitudes towards TIP.

Sample

Participants were 128 UK-based educational staff, aged 19-70 years ($M = 37.76$, $SD = 11.34$). Females comprised 93% of the sample; 44% of participants indicated that they had received trauma awareness training.

Methods

Participants completed an online survey comprising standardised measures of demographics, adult attachment, Adverse Childhood Experiences and Attitudes Related to Trauma-Informed Care (ARTIC). The ARTIC questionnaire yields five sub-scales of attitudes.

Results

Demographic variables were unrelated to attitudes towards TIP. Zero order correlations revealed that ACEs and attachment dimensions were associated with attitudes. However, multiple linear regression analyses indicated that when exposure to trauma-informed training was controlled, only attachment avoidance explained a significant proportion of variance in attitudes towards TIP.

Conclusions

Previous experience of adversity was unrelated to attitudes when the effect of training was controlled. Insecure attachment styles may pose a barrier to favourable attitudes towards TIP, despite training. Further research is required to determine why insecurely attached individuals, especially those with high avoidance, are resistant to trauma-informed ways of working.

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An increasing motivation to adopt trauma-informed practice (TIP) in schools has arisen from growing awareness of the impact of childhood adversity on educational experiences and outcomes (Hardcastle *et al.*, 2018; Morrow & Villodas, 2018), as well as emerging evidence for the positive impact of trauma sensitive school interventions (Kearns & Hart, 2017; Sciaraffa *et al.* 2018). It is commonly assumed that teachers hold innately favourable attitudes towards trauma-informed practices (Sweeney *et al.*, 2016), yet unfavourable attitudes have the capacity to act as a barrier to the implementation of changes to policy and practice (Baker *et al.*, 2010). Little is known about how individual characteristics of school staff are related to attitudes towards TIP. However, existing research suggests that teachers' interactions with pupils who have experienced adversity is influenced by teachers' attachment representations and their experiences of adversity (Anderson *et al.*, 2015; Sciaraffa *et al.*, 2018). This study investigated relationships between teachers' attachment style, lived experience of childhood adversity and their attitudes towards TIP in schools.

Adverse childhood experiences and their sequelae

Adverse Childhood Experiences (ACEs) comprise a range of events that have the potential to disrupt typical developmental processes (Poole *et al.*, 2018; Sciaraffe, *et al.*, 2018). These experiences include interpersonal trauma, such as childhood sexual and physical abuse and indicators of family dysfunction such as parental mental ill health, parental incarceration and domestic violence (Felitti *et al.*, 1998). Early life adversity has been shown to have the capacity to disrupt the neurodevelopment of children (McLean, 2016; Thomason & Marusak, 2018), and has been associated with cognitive, emotional and behavioural difficulties in childhood and adolescence (McLaughlin *et al.*, 2014; Perfect *et al.*, 2016; Porche *et al.*, 2016).

Furthermore, accumulating evidence points to relationships between early trauma and adversity and educational inequality in children and adolescents (Davidson & Carlin, 2019; Hunt *et al.*, 2017; Poole, *et al.*, 2018). Learners who have experienced ACEs are more likely than their peers to experience mental health difficulties and school attainment issues (Bethell *et al.*, 2014). ACEs have also been associated with lifelong disadvantage through a variety of educational impacts, such as compromised attentional, literacy and maths skills (Blodgett & Lanigan, 2018; Delaney-Black *et al.*, 2002), early school dropout (Morrow & Villodas, 2018), and leaving school without qualifications (Hardcastle, *et al.*, 2018).

The two most pervasive impacts of trauma are dysregulated stress responses (Anda *et al.*, 2006) and negative impacts on social relationships, including attachment relationships (Wright *et al.*, 2017). Dysregulated attachment behaviours may manifest along a spectrum of challenging classroom behaviours, including helplessness, over-compliance, compulsive self-reliance, controlling or coercive behaviours and aggression (Berlin, 2001; Howe, 2006). ACE-related behaviour in the classroom can be misinterpreted as intentional behaviour and responded to with disciplinary strategies (Nash, Schlosser, & Scarr, 2016). At the same time, attachment relationships contribute to the internalisation of adaptive skills in regulating emotional responses and behaviours (Pearlmann & Courtois, 2005). A safe, nurturing relationship with an adult is one of the most important protective factors in promoting resilience and overcoming exposure to adversity (Bellis *et al.*, 2018; Mortensen & Barnett, 2016). In response, trauma-informed school practices commonly focus on addressing dysregulated stress responses and promoting attachment relationships (Brunzell *et al.*, 2015) through the provision of unconditional positive regard, positive classroom management strategies, consistency, predictability and building positive-student relationships (Briere *et al.*, 2017; Kearns & Hart, 2017).

Attitudes towards trauma-informed practice

The success of any educational intervention is partly dependent on the existing attitude of staff, as attitudes determine the ongoing behaviour and interactions of staff and the motivation to implement new practices (Aarons, 2005; Baker *et al.*, 2016; Petre *et al.*, 2017). Attitudes are influenced by demographic characteristics, for example, new practitioners hold more positive attitudes to adopting new approaches than experienced ones (Aarons *et al.*, 2010). The early life history of staff also has the potential to impact attitudes, as attachment style is associated with the capacity to build trusting relationships with others (Sweeney, *et al.*, 2016) and exposure to ACEs interact with beliefs about one's capacity to cope with trauma-related behaviours in others (Anderson *et al.*, 2015).

An important factor when incorporating trauma-informed approaches is the readiness of a service to embrace this shift, especially if teaching staff lean more towards traditional practices (Bloom & Farragher, 2013; Cole *et al.*, 2013). The extent to which a school is trauma-informed is closely linked to the day to day behaviour and attitudes of its staff (Baker, *et al.*, 2016, p.63). It is therefore crucial to understand whether individual characteristics of staff related to preliminary attitudes.

Teacher attachment style

Attachment style in teachers has been associated with attitudes towards interventions, as well as beliefs about relationships with learners, classroom behaviours and conflict tactics (Kennedy & Kennedy, 2004; Sher-Censor, Nahmias-Zolotov & Smadar Dolev, 2019; Hunt, Slack & Berger, 2017). In adults, attachment is conceptualised as two dimensions of attachment insecurity: avoidance and anxiety (Fraley *et al.*, 2011). Low scores on these

dimensions denote secure attachment, which is characterised by the capacity to perceive and respond to a range of emotional states in others (Verscheuren & Koomen, 2012), to manage relationships and seek support from others (Darling Rasmussen *et al.*, 2019) and to regulate emotion (Goodall, 2015; Orehek *et al.*, 2017). Attachment insecurity dimensions are associated with distinct maladaptive emotion regulation styles (Brodie *et al.*, 2019; Reisz *et al.*, 2018; Zilberstein & Messer, 2010). Attachment avoidance is characterised by a dismissing interpersonal style, and a suppressive emotion regulation strategy (Goodall, Brodie & Schwannauer, 2020). Attachment anxiety is characterised by a high emotional reactivity to stress underpinned by a sense of the self as vulnerable, and a heightened fear of rejection (Hunt *et al.* 2017; Orehek *et al.*, 2017). Furthermore, the distinct insecurity dimensions are associated with classroom management. In classroom conflict situations, teachers with high attachment avoidance rarely use adaptive conflict management styles, such as prioritising concern for the student (Morris-Rothschild & Brassard, 2006). Insecure attachment has also been associated with burnout and compassion fatigue (West, 2015). Attachment style is therefore a potential candidate variable for understanding how personal characteristics of teachers might relate to their attitudes towards TIP, via their conceptualisation of relationships with learners, their views on classroom management and their perceptions of their own abilities to cope.

Teachers' lived experience of childhood adversity

Recent studies suggest that the prevalence rates of ACEs is slightly higher in teachers than in the general population (Hubel *et al.*, 2020; Whitaker *et al.*, 2014) but little is known about how this might affect interactions with learners. In parents, higher ACEs have been associated with hostility and a reduced capacity to provide sensitive care to a child (Bailey *et al.*, 2012; Gonzalez *et al.*, 2012). Similarly, ACEs in teachers have been negatively

associated with the emotional and social atmosphere in a classroom (Hubel, *et al.*, 2020). By contrast, in a study with child welfare workers, those with higher ACEs had an elevated professional quality of life (Hiles Howard *et al.*, 2015). A key benefit of trauma-informed training is that it serves not only to educate staff members effective means to regulate child stress in the face of adversity, but also helps those reinterpret or recontextualise their own trauma responses (Mendleson *et al.*, 2015). Examining whether teachers' lived experiences of ACEs is related to their attitudes towards trauma informed practice is therefore warranted.

While general positive attitudinal change has been reported following trauma-informed training (Parker *et al.*, 2020), it is important to determine whether specific characteristics of individuals contribute to favourable or unfavourable attitudes towards implementing TIP. The aim of this study was therefore to examine relationships between demographic factors, teachers' ACEs, attachment styles and attitudes towards TIP, while accounting for the impact of previous training. It was hypothesised that higher levels of attachment insecurity (avoidance and anxiety) would be associated with more negative attitudes towards. We hypothesised that there would be a relationship between self-reported ACEs and attitudes but given that research on this topic is limited, we advanced no hypotheses about direction.

Method

Participants

Participants were 128 UK-based teaching staff, who were age 19-70 years ($M = 37.76$, $S.D. = 11.34$), predominantly female (93%) and had worked in education from 1 to 43 years ($M = 11.57$, $S.D. = 8.83$). Most had received no trauma-informed training (66 %). Participants worked in early years or junior schools (62%), senior schools (18%), alternative provision schools (18%) or in multiple settings (2%).

Procedure

Following University ethical approval, the survey was advertised on social media and the Barnardo's website. A web link via Online Surveys took participants to the information and consent section, followed by the survey, comprising demographics and the measures below. As the ACEs measure referred to potentially distressing childhood events, participants were instructed that they could opt out of the ACEs measure.

Measures

Attitudes towards trauma-informed practice

The Attitudes Related to Trauma-Informed Care (ARTIC; Baker, *et al.*, 2016) is a psychometrically validated 45-item measure of favourable or unfavourable attitudes towards trauma-informed care in schools and organisations. Five subscales measure attitudes of the following:

1. Understanding of the underlying causes of problem behaviour and symptoms (*underlying causes*). Emphasizes behaviour and symptoms as malleable versus intentional and fixed.
2. Responses to problem behaviour and symptoms (*responses*). Emphasizes relationships, flexibility and safety as the agent of change versus rules, consequences, and accountability.
3. On-the-job behaviour (*on-the-job*). Endorses empathy-focused staff behaviour versus control-focused staff behaviour.
4. Self-efficacy at work (*self-efficacy*). Endorses feeling able to meet the demands of working with a traumatized population versus feeling unable to meet the demands.
5. Reactions to work (*reactions*). Endorses appreciating the effects of secondary trauma/vicarious traumatization and coping by seeking support versus minimizing the effects and coping by ignoring or hiding the impact.

Responses are rated on seven-point bipolar Likert scales and scored according to a standardized manual (Baker, *et al.*, 2016). The authors report excellent internal consistency ($\alpha = .93$) and strong construct validity (Baker, *et al.*, 2016).

Adult attachment

The experiences in Close Relationships – Relationships Structures Questionnaire (ECR-RS; Fraley, *et al.*, 2011) is a 9-item measure of adult attachment, yielding two dimensions of attachment insecurity: attachment avoidance (6 items) and attachment anxiety (3 items). Respondents rate statements on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher scores represent greater levels of attachment insecurity. Good internal consistency has been noted for attachment anxiety, $\alpha = .83-.91$, and attachment avoidance, $\alpha = .81-.92$ (Donbaek & Elklit, 2014; Fraley *et al.*, 2011).

Adverse Childhood Experiences

The Philadelphia Adverse Childhood Experiences Survey (PHL ACEs; Cronholm *et al.*, 2015), is a 21-item self-report measure of childhood exposure to adverse experiences, comprising two subscales. The Conventional ACEs subscale comprises 15 items measuring emotional, physical and sexual abuse, emotional and physical neglect, and household dysfunction, such as domestic violence and parental mental illness. The expanded ACEs subscale comprises 6 items measuring community problems, such as witnessing violence and living in foster care. The measure uses a multiple answer format leading to an aggregate score.

Statistical Analyses

All analyses were conducted in SPSS version 24. Relationships between variables were examined using Pearson's correlation coefficients. To explore predictors of attitudes towards TIP, sub-scales of the ARTIC measure were regressed onto four variables (training exposure, ACEs, attachment anxiety and attachment avoidance) using multiple regression analysis. Based on a two-sided significance of 0.05 and a power of 0.80, 80 participants were required to find an effect of 0.1. The study was therefore adequately powered.

Results

Descriptive statistics and missing data

Eight participants declined to respond to the ACEs questionnaire. Their results were excluded from relevant analyses leaving a total of 120 participants. Table 1 displays the means and standard deviations for age, length of employment, attachment anxiety, attachment avoidance, ACEs total scores, and ARTIC subscale scores. All ARTIC subscales showed substantial left skewness (-.69 to -1.17), indicating generally positive attitudes towards trauma-informed care.

Correlational analyses

Table 1 presents the matrix for Pearson's correlation analyses between study variables. Neither gender nor length of employment were significantly correlated with any ARTIC subscales. Attachment avoidance was significantly associated with all ARTIC subscales: underlying causes ($r = -.31, p = .00$), responses ($r = -.28, p > .01$), on-the-job ($r = -.32, p = .00$), self-efficacy ($r = -.43, p = .00$) and reactions ($r = -.52, p = .00$). Attachment anxiety was significantly correlated with the ARTIC subscales self-efficacy ($r = -.24, p > .01$) and

reactions ($r = -.25, p > .01$). Participant ACEs scores were significantly correlated with ARTIC self-efficacy ($r = -.25, p > .01$) and reactions ($r = -.35, p = .00$).

To examine whether there were significant differences in attitude between those exposed to trauma-informed training and those not, independent samples t-tests were conducted. Table 2 displays means and standard deviations for scores in both groups. The result indicated that those who were exposed to trauma-informed training held significantly more favourable attitudes towards TIP than those who had not across all subscales: underlying causes ($t(126) = -4.32, p = .00$), responses ($t(126) = -2.85, p > .01$), on-the-job ($t(126) = -2.72, p > .01$), self-efficacy ($t(126) = -2.95, p > .01$), reactions ($t(126) = -2.29, p = .02$). Exposure to training was therefore controlled for in all subsequent analyses. There were no significant differences in attitudes between males and females.

Multiple Regression Analyses

A series of five multiple regression analyses were conducted to determine the proportion of variance in attitudes towards TIP explained by exposure to training, teachers' self-reported ACES and attachment insecurity dimensions. Each of the five ARTIC subscales constituted the independent variable in the five models (see Table 3). In the first model, the dependent variables explained 25% of the variance in underlying causes, ($F(4, 115) = 9.44, p = .00$), with an R^2 of .25. Exposure to training ($b = .64, 95\% CI .35, .93$) and attachment avoidance ($b = -.30, 95\% CI -.43, -.16$) were found to be significant independent predictors, indicating that training was associated with more positive attitudes towards underlying causes of problem behaviours, while higher levels of attachment avoidance were associated with more negative attitudes.

In the second model, the variables explained 14% of the variance in responses, ($F(4, 115) = 4.64, p = .00, R^2 = .14$). Similar to model 1, trauma-informed training ($b = .43, 95\% CI .13, .74$) and attachment avoidance ($b = -.23, 95\% CI -.38, -.09$) were found to be significant independent predictors.

A significant regression model was found ($F(4, 115) = 5.41, p = .00$) for on-the-job behaviour, with an R^2 of .16, when based on predictors trauma-informed training, attachment and PACE (Table 3). However only trauma-informed training ($b = .35, 95\% CI .07, .62$) and attachment avoidance ($b = -.22, 95\% CI -.35, -.09$) were found to be significant independent predictors of attitudes related to on-the-job behaviour.

In the fourth model, a significant regression model was found ($F(4, 115) = 8.84, p = .00$) with an R^2 of .23, based on the same predictors, with only trauma-informed training ($b = .53, 95\% CI .16, .90$) and attachment avoidance ($b = -.33, 95\% CI -.50, -.16$) found to be significant independent predictors of self-efficacy.

Lastly, a significant regression model was found ($F(4, 115) = 13.78, p = .00$) for reactions, with an R^2 of .32, based on trauma-informed training, attachment and ACEs; in this regression trauma-informed training ($b = .35, 95\% CI .04, .65$), attachment anxiety ($b = -.37, 95\% CI -.52, -.23$) and attachment avoidance ($b = -.04, 95\% CI -.09, .00$) were found to be significant independent predictors of reactions at work.

Discussion

The aim of this study was to investigate individual and contextual factors associated with teachers attitudes towards TIP. The results indicated that gender and length of time in

employment were unrelated to teachers' attitudes towards TIP. Teachers who had received trauma awareness training, had significantly more positive attitudes towards trauma-informed care than those who had not. After controlling for the effects of trauma-informed training, attachment avoidance was negatively associated with all sub-scales measuring attitudes towards TIP. Attachment anxiety was negatively associated with *reactions to problem behaviours only*. When the effect of trauma-awareness training was controlled, the number of ACEs that respondents reported was not significantly associated with attitudes towards TIP.

The findings of this study align with previous research indicating that trauma awareness training is not only positively associated with knowledge about ACEs (Bethell, *et al.*, 2014; Sciaraffa *et al.*, 2018), but is also positively associated with the motivation to implement trauma-informed practice (Carello & Butler, 2015). Currently, there is a dearth of research investigating other variables that might interact with attitudes towards TIP in teachers. This study demonstrated that even when the effects of training were controlled, attachment avoidance was associated with more negative attitudes across all sub-scales of the ARTIC. Thus, avoidant attached respondents were more likely to endorse trauma-related symptoms and behaviours as intentional and stable, rather than adaptive and potentially malleable. They were also more likely to endorse rules, consequences and accountability as appropriate response to these behaviours, rather than view safety, kindness and relationships as agents of change. Attachment avoidance was also associated with higher endorsement of control, rather than empathic staff behaviour in relation to classroom management.

These subscales were designed to be indicative of the capacity to respond to students in security-enhancing ways (Baker, *et al.*, 2016). The negative attitudes more commonly

endorsed by avoidant attached school staff are aligned with traditional behaviourist approaches to classroom management. Although behaviourist approaches are often implicitly endorsed in education, a more contemporary view emphasises effective classroom management as being dependent not only on how teachers respond to behaviour, but on the extent to which pupils feel valued, secure and can engage in positive social interactions (Hart, 2010).

Morris-Rothchild & Brassard (2006) have suggested that highly avoidant individuals have an internalised attachment model that promotes emphasis on independence and self-reliance, which in turn acts as a framework through which ACE-related behaviour is understood. This is potentially linked to overestimation of a child's ability to cope with negative affect (Orehek, *et al.*, 2017) and an under-estimation of the impact of trauma (Bellis, *et al.*, 2014). Due to the aversion to close relationships when dealing with personal issues (Morris-Rothchild & Brassard, 2006), avoidant individuals may find it challenging to commit to providing a secure base for pupils with trauma-related behavioural issues.

Attachment anxiety was associated with one facet of attitudes towards TIP only. Both attachment anxiety and avoidance were negatively associated with *reactions to work*, which measures the extent to which an individual will seek support for secondary trauma. This may be somewhat surprising considering that individuals who rate themselves high on attachment anxiety are more likely to view themselves as vulnerable and less likely to cope with stressful situations (Sher-Censor *et al.*, 2019). However, attachment anxiety has been associated with weak self-other boundaries and strong needs for social approval (Lopez, 2001), potentially making it more difficult for anxiously attached teachers to distinguish between doing a job well, and allowing that job to detrimentally impact their wellbeing. Furthermore, although

anxiously attached adults are more inclined to seek support than avoidant attached individuals (Schaffer, Vogel & Wei, 2006), both adults with anxious and avoidant attachment generally report smaller social networks and less satisfaction with social support networks than securely attached individuals (Anders & Tucker, 2000). This suggests that they may perceive less benefit from seeking social support, making them potentially more vulnerable to vicarious trauma themselves.

Based on limited research linking teacher adversity experiences to classroom climate (Hubel *et al.*, 2020) we expected to find positive associations between teacher-reported ACEs and negative attitudes towards TIPs. However, no significant associations were found between ACEs and attitudes towards TIP. In this study, an aggregate measure of ACEs was used. In cross-sectional studies, assumption of a cumulative risk model can lead to an underestimation of the effect of specific types of adversity (Goodall, Robertson & Schwannauer, 2020). Future research should utilise a measure which enables examination of the effects of different types of adversity.

Limitations

The results of this study were drawn from a cross-sectional, self-report survey with several limitations. First, causal relationships cannot be inferred from correlational analyses. Second, in studies where data for both independent and dependent variables are obtained from the same person using a single survey, the results may be prone to common method bias, leading to spurious associations between variables. Third, the sample was majority female, limiting the generalisability of the results. Finally, it was not possible to determine the duration, nature or quality of training received. It cannot be ruled out that the

relationships demonstrated in this study are an over- or under-estimation of the impact of trauma awareness training.

Despite the limitations, this study provides preliminary evidence to suggest that attachment style, which is a relatively stable attribute in adults (McConnell & Moss, 2011) is predictive of attitudes towards TIP. Further replication of this finding is required to determine whether addressing attachment concerns may be beneficial in to promoting TIP in schools.

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Contributors: HR and KG: designed and executed the study, analyzed the data and wrote the paper. DK: collaborated in the writing and editing of the final manuscript.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest

Ethical Approval All procedures have been approved by the Health in Social Science research ethics committee (Ref: CLIN645) at the University of Edinburgh and have been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments.

Informed consent Informed consent was obtained from all individual participants included in the study.

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Table 1

Descriptive statistics and correlations between study variables

	1	2	3	4	5	6	7	8	9	10	<i>M</i>	<i>SD</i>	α
1. Age	1										37.76	11.34	
2. Employment	.78**	1									11.57	8.82	
3. ECR-anxiety	-.17	-.25**	1								3.23	1.93	.89
4. ECR-avoidance	-.18*	-.24**	.47**	1							3.18	1.19	.77
5. PACE total	-.25**	-.24**	.27**	.37**	1						3.42	3.89	.80
6. ARTIC-underlying	-.02	.03	-.05	-.31**	-.01	1					5.52	.86	.76
7. ARTIC-responses	.08	.09	-.05	-.28**	-.06	.69**	1				5.93	.85	.76
8. ARTIC-on-the-job	.04	.06	-.12	-.32**	-.16	.69**	.74**	1			5.85	.77	.67
9. ARTIC-self-efficacy	.12	.17	-.24**	-.43**	-.25**	.48**	.46**	.57**	1		5.46	1.07	.81
10. ARTIC-reactions	.15	.11	-.25**	-.52**	-.35**	.55**	.47**	.62**	.71**	1	5.58	.96	.76

Table 2

Comparison of ARTIC sub scales by exposure to training

	Exposure (n=44)		No exposure (n= 84)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
underlying causes	5.94	.71	5.29	.85
responses	6.22	.75	5.78	.86
on-the-job behaviour	6.09	.72	5.72	.76
self-efficacy at work	5.84	.93	5.26	1.10
reactions at work	5.85	.79	5.44	1.02

Table 3

Summary of regression analyses by ARTIC subscale

	<i>B</i>	<i>95% CI (LL, UL)</i>	β	<i>T</i>	<i>p</i>
<i>Underlying causes</i>					
Intercept	5.97	5.54, 6.40		27.62	.00**
TI-training	.64	.35, .93	.36	4.36	.00**
PACE	.02	-.02, .06	.10	1.15	.25
ECR-anxiety	.07	-.01, .15	.15	1.68	.10
ECR-avoidance	-.30	-.43, -.16	-.41	-4.33	.00**
<i>Responses to problem behaviour</i>					
Intercept	6.29	5.84, 6.74		27.58	.00**
TI-training	.43	.13, .74	.24	2.80	.01*
PACE	.00	-.04, .04	.02	.23	.81
ECR-anxiety	.06	-.02, .15	.14	1.43	.16
ECR-avoidance	-.23	-.38, -.09	-.32	-3.22	.00**
<i>On-the-job behaviour</i>					
Intercept	6.37	5.96, 6.78		31.07	.00**
TI-training	.35	.07, .62	.22	2.51	.01*
PACE	-.01	-.05, .03	-.05	-.58	.56
ECR-anxiety	.03	-.05, .11	.07	.78	.44
ECR-avoidance	-.22	-.35, -.09	-.33	-3.36	.00**
<i>Self-efficacy at work</i>					
Intercept	6.41	5.87, 6.95		23.52	.00**
TI-training	.53	.16, .90	.24	2.87	.00**
PACE	-.03	-.08, .02	-.11	-1.30	.19
ECR-anxiety	.01	-.09, .11	.01	.15	.88
ECR-avoidance	-.33	-.50, -.16	-.37	-3.84	.00**
<i>Reactions to work</i>					
Intercept	6.73	6.28, 7.18		29.48	.00**
TI-training	.35	.04, .65	.17	2.25	.03*
PACE	.02	-.07, .10	.04	.45	.65
ECR-anxiety	-.37	-.52, -.23	-.46	-5.13	.00**
ECR-avoidance	-.04	-.09, .00	-.18	-2.21	.03*